is a mistake to give a temporary supplementary bottle.

Tonsilitis, acute colds, and the usual infectious diseases, are not as a rule indications for weaning the infant, because the infant through the milk from the infected mother receives anti-bodies which protect it against the disease.

The nipples should be carefully protected against handling and soiling and they should be cleansed with boric solution before and after each nursing. When fissures appear they should be treated with mild healing antiseptics. The nursing should not be discontinued, although at times a nipple-shield may be used as a temporary relief from the biting of the infant. The breast is rarely emptied so efficiently through the nipple-shield, and its use should be discontinued as soon as possible.

When a lymphangitis develops, the patient should be confined to bed, ice applied constantly to the breast, water forced, and the breast thoroughly emptied at the regular intervals by nursing. To begin treatment early is of the utmost importance. Heat should not be applied and massage is bad. I have never seen a breast abscess develop in a case where the above advice was followed and I have never seen bad effects in an infant from nursing an infected breast treated as above.

To prevent establishment of milk supply or to dry up the supply when it has once become established, it is only necessary to protect the breasts against brusing and contamination, and leave them absolutely alone. It is unnecessary to restrict liquids or give cathartics; pressure binders are unnecessary; heat, massage and ointments are injurious. A loose support may add to the patient's comfort, and the temporary engorgement may justify a few doses of Codein to relieve the pain. The patient should be cautioned against rubbing or bruising the breasts. To massage or pump the breast is dangerous and prolongs the discomfort. If the breasts are protected against bruising and infection, the discomfort will be of short duration, and I have never seen abscess formation where this treatment has been followed absolutely.

To gain some idea of the result obtained I have analyzed 100 consecutive cases, excluding only those cases which dropped out of sight at the end of the puerperium. Most of these cases had returned to their homes in other cities, and all of them were nursing their babies when last seen.

98 nursed three months or longer, and 86 of these were still exclusively breast fed.

89 nursed five months or longer, and 77 of these were still exclusively breast fed.

75 nursed seven months or longer, and 54 of these were still exclusively breast fed.

56 nursed nine months or longer, and 32 of these were still exclusively breast fed.

So far as I am able to learn, two babies died during the first year, one at six and a half months of broncho-pneumonia while being fed exclusively artificially, the other at five months of whooping cough and pneumonia while exclusively breast fed.

It is also interesting to note that the two babies weaned before the end of three months were weaned without my advice.

"United States Life Tablets," 1910.
Morse and Talbot, "Diseases of Nutrition and Infant Feeding," 1915.
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GASTROENTEROSTOMY.*

(100 cases studied postoperatively.)

By C. W. LIPPMAN, M. D., San Francisco.

In watching a series of stomachs two to eight years after operation it has been my impression that the results of gastroenterostomy are poor in a large per cent. of the cases, except in the cases of true pylorostenosis, where the gastroenterostomy acts in a definite drainage capacity.

Originally the wonderful immediate effect of the gastroenterostomy on the pain and other ulcer symptoms was ascribed to drainage but as fluoroscopy came into its own it was noticed that a large part of the food persisted in traveling through the pylorus no matter where the surgeon put the hole in the stomach, and let me say here, that where the surgeon puts his opening is not where the opening stays. Within the last week I had occasion to re-examine two gastroenterostomies, one two years and the other four years old. Both openings were put originally at the most dependent part of the stomach. One has wandered to the right till it empties in spurts with each contraction of the antrum; the other has been drawn up to the vertical part of the greater curvature, food wandering impartially both through the hole, as if it were a drainage pipe, and through the pylorus.

Later the surgeon explained his good results by the regurgitation of alkaline fluid neutralizing the gastric juice. Yet within the last few months the Mayo Clinic reports 11 cases of gastroenterostomy for duodenal ulcer, all of which had anacid stomachs. As a matter of facts, we haven't any idea why gastroenterostomy cures peripyloric ulcer. Finney gets the same results or better with pyloroplastics. If you ask the surgeon why he does a gastroenterostomy, he tries to explain but cannot. He always falls back upon the fact that gastroenterostomies do work. That is correct—but in my experience this immediate good effect is counteracted by a mortality within three months of approximately eight per cent. This figure is for the surgery of a great number of men who have had surgical services for years with large practical experience. This eight per cent. mortality compares very favorably with Coffey's (of Portland) seven per cent. mortality in one hundred cases of his own and Peck's (of Roosevelt Hospital, N. Y.) with eight per cent. in seventy-one cases. Those men, who have only two per cent. mortality—the mortality of accident, work only on selected cases. The cases which I see in clinic are very often moribund at operation. Among the bad results of gastroenterostomy in the 100 cases which I analyzed before giving this paper, I had three

* Delivered at S. F. County Medical Society, April, 1917.

recurrent ulcers operated upon—one gastrojejunal and two recurrent in the stomach proper; six cases re-operaed upon for adhesions, five more in which I ascribed the recurrent symptoms of gas and acute discomfort after meals to adhesions, and three cases in which the stoma remained too large or too relaxed. These latter cases suffered from gas and distention immediately after eating. This was easily explained when you watched the bismuth drop through the gastroenterostomy opening, distending the loop of gut, a pint of buttermilk leaving the stomach in less than twenty minutes. One of these cases also had the symptom described elsewhere in the literature of diarrhoea with undigested food appearing in the stools. A finely divided diet relieved him. Another 12 cases were not completely relieved of their symptoms, being unable to take full diet without hyperacidity, pyrosis and gas after eating. This makes 29 cases with poor after-results, 8 fatal cases, 12 cases which I could not follow in this series, leaving 51 cases with good results. Among the good results are 12 cases of pylorostenosis which, separated out, only gives me 39 cases of simple peptic ulcer with good results against 37 cases with poor results. Of the fatal cases, one died of hemorrhage within 12 hours of operation, two of postoperative shock, one of peritonitis and four of pneumonia. These were not all truly chargeable to the operation, as four of the cases were practically moribund at operation. They were, of course, poor subjects for surgery. Incidentally four of the poor results of gastroenterostomy were on cases where the ulcer should have been there but could not be found at operation. I believe with the Mayos that you should not do a gastroenterostomy unless you can show the ulcer to bystanders. My figures of 37 per cent. bad results in 100 cases are uncannily close to such figures in the literature as Clairmont's (von Eiselberg's clinic) of 62 per cent. good results in peripyloric ulcers, and Bourne's (1913) 38 per cent. bad results. Martin and Carroll reported 45 per cent. recurrence of symptoms. No statistics are accurate—each man must judge from his own experience. I feel personally that in every case of ulcer, whether peripyloric or distal from the pylorus, resection and not gastroenterostomy is the method of choice. Wherever possible cut out the ulcer, because if we have complications and have to go back into the belly the stomach is much easier to work with than when it has a gastroenterostomy loop and a mass of adhesions tied to it. Of course, the higher mortality of resection is always mentioned, but, in my experience, resection of simple ulcer in the hands of competent men has had no greater mortality than gastroenterostomy. The real reason for the greater mortality of resection in ulcer is that most surgeons only resect large ulcers suspected of being carcinomatous and, of course, a resection of a large part of the stomach gives a greater mortality than a simple gastroenterostomy operation. Besides, we know from Finney, who does but few gastroenterostomies, that his results are just as good or better than the best claimed by the men who do routine gastroenterostomies. No operation should be a routine: every case should be studied both on the operating table and before it goes on the operating table, and the best method for that particular patient applied. Only in this way will our per cent. of operative results become better. Personally I prefer to see the cutting out of anteriorly situated duodenal ulcers when possible: incising and sewing over posteriorly situated duodenal ulcers; ditto for pyloric ulcers with pyloroplasty when necessary. Ulcers of the lesser curvature when of any size should all be excised, as large ulcers are usually carcinomatous (roughly when about the size of a dollar). I prefer to see a sleeve resection as I have seen no disturbances of motility after sleeve resections whereas in triangular resections I have two cases with delayed emptying. Just why this occurs, no one knows, though there is being done much experimental work along this line, both on humans and animals. The most recent report is that of Stewart and Barber. I see no need for the gastroenterostomy following unless the stomach be too small for function. If there be not enough left for good function I prefer the Polya operation to the other forms of gastroenteric anastomosis.

MINERAL SPRINGS AND SOME OF THEIR INTERNAL USES.

By R. H. HUNT, M. D., Bartlett Springs, California.

From time immemorial the use of mineral waters has stood apart as a definite method of treatment. It has never at any one time had very great support from the medical profession as a whole, yet it has held a unique place as a therapeutic agent. We cannot ignore the fact that medicinal springs have at all times and in all ages enjoyed a large measure of the faith and confidence of mankind and at the present time multitudes every year are finding relief from them. Many have advanced the theory that it was the water only that counted in the results obtained, and that the particular qualities of the spring were negligible. Let full value be freely granted to the watery element. Are all the effects thus accounted for? It is evident that no simple theory is enough to explain the action of the mineral spring waters. Interpretations as to their action have been many and various; with the advance of science the mystic powers of the mineral springs to cast out devils, to eliminate unhealthy humors have been discarded with the theories themselves; the explanation that attributed every property of mineral waters to their ascertained chemical construction has in its turn proved misleading. Their composition is still in part unknown to us; chemical data do not reveal to us the real grouping of the elements. We do not know their influence one upon the other, nor their intimate action in the body. Too much has been claimed for them; they have been used as the main or sole treatment, thereby falling into disrepute, whereas the medicinal spring water today is only an auxiliary or supplemental treatment. To some physicians the recommendation of a mineral water treatment is objectionable be-